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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/624,768 | 07/21/2003 | Eric R. Mueller | COHO-5000 | 6773 |
| 28584 | 7590 | 09/08/2005 | EXAMINER | |
| STALLMAN & POLLOCK LLP SUITE 2200 353 SACRAMENTO STREET SAN FRANCISCO, CA 94111 | | | NGUYEN, TUAN N | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2828 | |

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/624,768 | MUELLER ET AL. | |
| | Examiner | Art Unit | |
| | Tuan N. Nguyen | 2828 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-14 is/are allowed.
- 6) ☒ Claim(s) 1-9, 15-22 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/10/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION
Claim Rejections - 35 USC § 102

1. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 5, 15, 16, 20 are rejected under 35 U.S.C. 102(a) as being unpatentable over Podmaniczky et al. (US4371964).

With respect to claims 1, 15, 20 Podmaniczky et al. '964 discloses a laser apparatus comprising an acousto-optic cell arranged to receive said output beam (Fig 1: 1,2), a plurality of oscillators for driving said acousto-optic cell simultaneously (Fig 1: 5) at a corresponding plurality of different frequencies (Fig 1: 10, f_1 - f_m), wherein driving said acousto-optic cell at said plurality different frequencies causes a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of secondary beams propagating at an angle to each other (Col 6: 30-68). Since claims 15, 20 recite the same or identical elements/limitations it is inherent to use patents ('964) to recite the method of operating a plurality of secondary beams from a single laser output using acousto-optic cell, product by process.

With respect to claim 2 (Fig1: 7,5) shows a plurality of variable gain amplifiers, associated with each of said plurality of oscillators to selectively amplify the output of said individual ones of said plurality of oscillators.

With respect to claims 3,5,16 the (ABSTRACT) discloses the circuit arrangement to selectively vary the gain of one or more of said variable gain amplifiers in response to one or more corresponding commands, and electronic circuitry configured to vary power in said laser

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output beam cooperative with one or more variable gain amplifiers for maintaining a predetermined power in each of said secondary beams (Col 6: 1-68).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
4. Claims 4, 6, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Podmaniczky et al. (US4371964).

With respect to claims 4, 6, 19 Podmaniczky et al. '964 discloses the above, the claim further requires the amplifiers has a different bandwidth, or four secondary beams. Even though, Podmaniczky et al. '964 did not disclose whether the amplifiers have different bandwidth, it has been held that where the general conditions of a claim are disclosed in the prior art, disclosing the optimum or workable ranges involves only routine skill in the art, in this case is the variation

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in the amplification gain, or having four oscillators driven at four different frequency to provide four secondary beams. In re Aller, 105 USPQ 233.

5. Claims 9, 17, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Podmaniczky et al. (US4371964) in view of Spaulding et al. (US 4000493).

With respect to claims 9, 17, Podmaniczky et al. '964 discloses the above, the claim further requires the laser output beam be expanded before directed into the acousto-optic cell (AO). Spaulding et al. '493 also discloses an apparatus and method for laser modulation via acousto-optic cell, where the output beam of the light source enter the beam expander prior enter into the acousto-optic cell (Fig 1: 20,22,24,26). It would have been obvious to one of ordinary skill in the art to provide Podmaniczky et al. '964 with the beam expander as taught or suggested by Spaulding et al. '493, for the benefit of increasing the amount of light beams landing on the AO from a single laser.

With respect to claims 21, 22 Spaulding et al. '493 further discloses the dividing means to vary the power of drive frequencies (Fig 5: 100, 102, 104, 107, 120, 122), and means for monitoring the power in the sub-beam, so the power of the drive frequencies is varied in response to the measure power (Fig 5: 116, 119, 118, 120).

6. Claims 7, 8, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Podmaniczky et al. (US4371964) in view of Thompson et al. (US 6031852).

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Podmaniczky et al. '964 discloses the above, the claims further require the laser is a CO₂ laser with wavelength 9 and 11 micrometers, with acousto-optic cell includes germanium diffracting material. Thompson et al. '852 describe the use of wavelength deflection using acousto-optic device with laser is a CO₂ laser with wavelength 9 and 11 micrometers, with acousto-optic cell (AO) includes germanium diffracting material (Col 5: 45-55).). It would have been obvious to one of ordinary skill in the art to provide Podmaniczky et al. '964 with the germanium diffracting AO and CO₂ laser as taught or suggested by Spaulding et al. '493, for the benefit of producing the desire wavelength or signal output.

REASON FOR ALLOWANCE

Allowable Subject Matter

7. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 07/21/2003 has been considered, with respect to claim 10, the references of the record fail to teach or suggest:

Claim 10:

A apparatus comprising a laser output to a acousto-optic cell, a plurality of RF oscillators driving output to a corresponding plurality of variable gain amplifiers causing a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of separate secondary beams propagating at an angle, where the power of each secondary beams being monitored via a corresponding plurality of detector, where the secondary beams power is depending on the magnitude of the RF driving frequencies and the laser output beam, where an electronic circuitry control the power beam by varying the amplifier gain and driving frequency amplitude, by monitoring the secondary beams power.

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8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

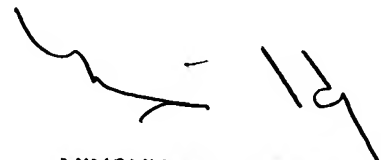
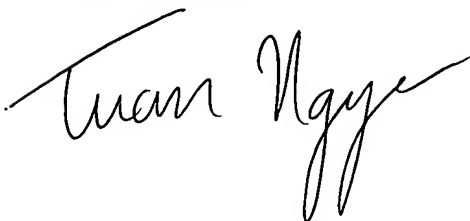
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



MIN SUN ON HARVEY
PRIMARY EXAMINER